Patent Claims

1. Optical compensator for liquid crystal displays comprising
   - at least one O plate retarder,
   - at least one diacetyl cellulose (DAC) film having the optical properties of a negative C plate.

2. Optical compensator according to claim 1, characterized in that the average tilt angle θ_{ave} in said O plate retarder is from 2 to 88°.

3. Optical compensator according to at least one of claims 1 and 2, characterized in that the tilt angle in said O plate retarder varies monotonuously in a direction perpendicular to the plane of the film from a minimum value θ_{min} at one surface of the film to a maximum value θ_{max} at the opposite surface of the film.

4. Optical compensator according to claim 3, characterized in that θ_{min} is from 0 to 80°.

5. Optical compensator according to claim 3 or 4, characterized in that θ_{max} is from 10 to 90°.

6. Optical compensator according to at least one of claims 1 to 5, characterized in that the thickness of said O plate is from 0.1 to 10 µm.

7. Optical compensator according to at least one of claims 1 to 6, characterized in that the optical retardation of said O plate is from 6 to 300 nm.

8. Optical compensator according to at least one of claims 1 to 7, characterized in that the thickness of said DAC film is from 20 to 200 µm.

9. Optical compensator according to at least one of claims 1 to 8, characterized in that the on-axis optical retardation of said DAC film is from 2 to 100 nm.

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10. Optical compensator according to at least one of claims 1 to 9, characterized in that said O plate comprises a linear or crosslinked polymerized liquid crystalline material with a tilted or splayed structure.

11. A liquid crystal display device comprising the following elements

- a liquid crystal cell formed by two transparent substrates having surfaces which oppose each other, an electrode layer provided on the inside of at least one of said two transparent substrates and optionally superposed with an alignment layer, and a liquid crystal medium which is present between the two transparent substrates,
- a polarizer arranged outside said transparent substrates, or a pair of polarizers sandwiching said substrates, and
- at least one optical compensator according to at least one of claims 1 to 10 being situated between the liquid crystal cell and at least one of said polarizers,

it being possible for the above elements to be separated, stacked, mounted on top of each other, coated on top of each other or connected by means of adhesive layers.

12. A liquid crystal display device according to claim 11, characterized in that it is a TN, HTN or STN display.

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